Please add the following new claims:

18. (New) A method as claimed in claim 1, wherein the volume of the fraction CC having the lower concentration returned at stage c) from the separation treatment is between about 1 – 5 m^3/adt.

19. (New) A method as claimed in claim 1, wherein the volume of the fraction CC having the lower concentration returned at stage c) from the separation treatment is between about 1 – 3.5 m^3/adt.

REMARKS

Favorable reconsideration and allowance of the subject application are respectfully requested.

By way of the amendment instructions above, the originally filed claims have been amended so as to address the Examiner's rejection under 35 USC 112 and to clarify the claimed subject matter. In this regard, it will be noted that the ranges originally recited in claim 13 now appear in new claims 18 and 19, respectively. Thus, claims 1-19 are now pending herein for which favorable reconsideration is requested.

In order to address the Examiner's criticisms with respect to the originally filed drawings, Figures 2 and 3 are proposed to be revised as noted in yellow highlighter on the accompanying photocopies thereof. Approval of such changes is requested, following which revised formal drawings will be filed in accordance with current Office practice.

The Examiner asserts that the specification does not explain what type device is used as a separation device. Applicants note, however, that the originally filed specification and the amended claims pending herein clearly define what kind of fractions that such a separation device produces. On page 3, line 8-9 of the subject application, it is clearly disclosed that the separation device may be an evaporator, a membrane separator or any other separation device suitable to obtain the properties of

the filtrate fractions according to claim 1. In applicants view, claim 1, step a) defines that a portion LI is separated from the filtrate after a washer. Thus, a filtrate tank or washer cannot be the separation device used in step a) (See page 2, 1st paragraph of the Office Action).

Withdrawal of the rejections advanced under the first and second paragraphs of 35 USC 112 is therefore in order.

The only issue remaining to be resolved in this application is the Examiner's art-based rejection. Applicants respectfully suggest that the clais pending herein are clearly distinguishable over both WO 95/04188 and WO 94/12720 with or without the admitted prior art discussed in the subject application.

Applicants not that the entire focus of WO 94/12720 is the disclosure of an extra recovery process (11), in which counter-currently circulated effluents from oxygen delignification and bleaching are treated. A characterizing feature of the process of WO 94/12720 is that brown stock (unbleached pulp) washing (2) ends up with a wash press (3), the filtrate of which flows counter-currently through the brown stock washing and screening (2) to the digestion (1). In the process of WO 94/12720 liquid from the washing of a metal removal stage (6) before the oxygen delignification (7) is evaporated (11) and condensate from the evaporation is supplied as washing liquid (4A, 4) to the wash press (3) and as washing liquid (10) to the last stages (9) of the bleaching sequence. One basic difference between the WO 94/12720 and the present invention is that the latter relates to a process in which clean washing liquid is brought to the end of the process and transferred counter-currently relative to the flow direction of the fiber suspension through several washing stages at least partly to the digester and from there further to chemical recovery CR as defined in claim 1. In WO 94/12720, however, washing liquid does not flow counter-currently from the end of the process as far as to the digester, but instead the washing liquid (10) brought to the bleaching (9) is partly recovered in flow 6D or recirculated from the Z washing stage 9I (Fig. 2) back to the EDTA stage (6) in flow (5). Another washing liquid, i.e. flow 4 is introduced to the wash

press (3). To the contrary, in the present invention washing liquid flows at least partly through the whole process to the digester, i.e. in the applicants' process the filtrate coming from the washer 12 downstream of the oxygen delignification stage 10 is directed to the brown stock washer 8. In WO 94/12720 the whole flow of washing liquid (6D) from the washing stage 6C (Fig. 2) is directed to evaporation.

The above-noted differences in the washing liquid flows result in the fact that the processes of WO 94/12720 and the present invention work differently. Indeed, applicants note that when the process of WO 94/12720 is studied more carefully, it can be seen that the process operates contrary to the basic principles of the present invention. One particularly significant aspect of the present invention is its ability to keep an oxygen delignification stage clean, i.e. a COD content is low, whereas the process of WO 94/12720 directs the COD especially to the oxygen delignification. A reason for this accumulation is that according to the principle of the counter-current washing the filtrate received from different bleaching stages is guided counter-currently up to the wash of the metal removal stage (6B) preceding the oxygen delignification (7). Practically this means that all the COD formed in the bleaching is driven counter-currently to the oxygen delignification. In addition, the fact that part of the filtrate from an ozone stage at the end of the bleaching is introduced to the press preceding the oxygen delignification and the metal removal stage, guarantees that also the COD of the ozone stage is driven through this, at least partly, to the oxygen delignification stage. According to applicants' balance calculation, the COD in the oxygen delignification stage of WO 94/12720 is about 140-150 kg/ ton pulp, which is about two or three times greater than the COD load of the oxygen delignification stage in the process according to the present invention.

The fundamental reason for the high COD load of WO 94/12720 is that the filtrate (6D) going to the separate recovery cycle is taken in the "wrong" place compared to the process according to the present invention. Because filtrate from the washer of the metal removal stage is taken to the recovery, WO 94/12720 more especially aims at an efficient removal of metals from the process. This results in the fact that all the COD

going with the washing liquid counter-currently from the bleaching "accumulates" in the pulp in the metal removal stage and drifts then directly to the oxygen delignification stage.

One starting point of the present invention was that a problem in the oxygen delignification is impurities coming from the digester and bleaching, while WO 94/12720 is concentrated on the treatment of the filtrate from the washing (6C) downstream of the metal removal stage (6B).

The Examiner refers to Fig. 3 of WO 94/12720, but applicants believe that he meant to refer to Fig. 3 of WO 95/04188, because there is no Fig. 3 in WO 94/12720. The Examiner describes how a filtrate flow in such Fig. 3, e.g. flow 6 is split to two lines 7 and 8. However, the properties of the filtrate flows are not changed. In applicants' claim 1, it is clearly defined that a filtrate portion L1 is treated so that two fractions having different properties are produced. Further, according to claim 1, a portion L1 is separated before the process stage downstream of the delignification stage and the washer of the oxygen delignification stage. In WO 95/04188, the filtrate flows referred to by the Examiner are located after the process stage following the delignification stage and the washer of the delignification stage in the flow direction of the pulp. For instance, in Fig. 3 of WO 95/04188 the washer 10 and the filtrate 3 discharged from this washer are located after the process stage 9 which follows the delignification and the delignification washer 17. The COD level of oxygen delignification does not decrease in the process described by WO 95/04188. In Fig. 3 filtrate is taken from the washer of the metal removal stage 9 to evaporation 5. The object is to remove metals from the filtrate coming from the washer 10 located downstream of the metal removal stage 9.

WO 94/12720 and WO 95/04188 are focused on treatment of filtrates from the washers located downstream of the metal removal stages to remove metals from the process.

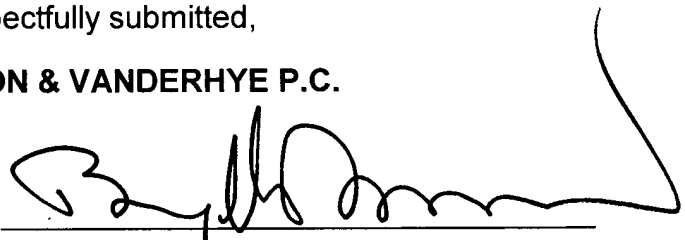
Applicants do not understand precisely what is "ADMITTED PRIOR ART" mentioned in the Office Action as no specific citation to the specification appears to

have been made. Moreover, the cited Tuomi reference is irrelevant to the present invention. In any event, it should be quite clear from the discussion above, that neither such "ADMITTED PRIOR ART" nor Tuomi cure the deficiencies of the primary references. As such, withdrawal of all art-based rejections is in order.

An early and favorable reply on the merits is awaited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 

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APPENDIX I

Marked-Up Version of Amended Claims Pursuant to 37 CFR §1.121(c)

1. (Amended) A method of treating pulp [according to which method] comprising a pulp digestion process which includes supplying wood material [is supplied] into a digester (2), and a brown stock washing process which includes discharging [the so-called] brown stock [is discharged] from the digester to a brown stock [washing] washer (8) to obtain washed pulp, and treating the washed pulp [is treated] in [a] an oxygen delignification stage (10) whereby the pulp digestion and brown stock washing processes mainly employ counter-current washing in which clean wash liquid is brought to the end of the process and filtrate of the process is transferred counter-currently relative to the flow direction of the pulp [fiber suspension] through several washing stages at least partly to the digester (2) and from there further to chemical recovery CR, [characterized in that in order to lower] and wherein the method further comprises lowering the COD-level in the oxygen delignification stage (10) according to the following steps:[,]

a) before [the] a process stage following [subsequent to] the oxygen delignification stage (10) and the washer (12) of the delignification stage in the flow direction of the pulp, separating a portion LI [is separated] from the wash liquid/filtrate to be recycled counter-currently relative to the flow direction of the pulp;

b) treating the portion LI of the filtrate [is treated] in a separation device (114, 214, 314, 414, 514) in order to produce two fractions CC and CD having [different physical properties] a concentration difference in the liquid phase measured by a difference in at least one of dry solids, COD, and alkali;

c) returning the fraction CC having a lower [physical property] concentration [is returned] either substantially to the same point in the process from which the portion LI of the filtrate was extracted

[at stage] according to step (a), or to some other point in the process [stage] in order to lower the COD-level in the oxygen delignification stage;

d) directing the fraction CD having a higher [physical property] concentration [is directed] either to the flow passing to the chemical recovery CR, the digestion plant or [as such] to a point in the process in which at least one of the dry-solids, COD [and/or] and alkali content of the liquid phase is at least as high as that of the fraction CD.

2. (Amended) A method as claimed in claim 1, [characterized in that] wherein the filtrate LI of [stage] step a) is obtained from [the] a flow passing from the [digestion plant] digester (2) to the chemical recovery CR_1 and wherein the fraction CD of [stage] step d) is returned to the flow passing to the chemical recovery CR.

3. (Amended) A method as claimed in claim 2, [characterized in that] wherein the fraction CC of [stage] step c) is returned either to [the] a flow BSF passing from the brown stock [washing] washer (8) to the digester (2), or [to be] is used as [the] wash liquid in the brown stock washer (8), in the washer (12) following the delignification stage (10), or in the washer (16) following the screen plant (6).

4. (Amended) A method as claimed in claim 1, [characterized in that] wherein the filtrate LI of [stage] step a) is obtained from [the] filtrate flow passing to the brown stock washer (8) preceding the delignification stage (10).

5. (Amended) A method as claimed in claim 4, [characterized in that] wherein the fraction of [stage] step c) is returned to the wash liquid flow passing to the brown stock washer (8) and wherein the fraction of [stage] step d) is returned either to the flow BSF passing from the brown stock washer (8) to the digester (2), or directly to the flow passing to the chemical recovery CR.

6. (Amended) A method as claimed in claim 1, [characterized in that] wherein step [at stage] a) includes taking the filtrate LI [to the separation device is taken] from [the] circulation waters subsequent to the digester (2), and passing the fraction CD of [stage] step d) [is passed] to [the] liquid circulations of the digester (2) or directly to the chemical recovery CR, and returning the fraction CC of [stage] step c) [is returned] to be used as [the] wash liquid in the brown stock washing (8) or in the wash (12) subsequent to the delignification stage (10).

7. (Amended) A method as claimed in claim 1, [characterized in that] wherein the washer either extracts [at least one of the washers (8, 12, 16) is a washer or a press from which at least either] at least two filtrates (FC, FD) having different [physical properties] concentrations [are extracted] or to which at least two filtrates having different [physical properties] concentrations are introduced.

8. (Amended) A method as claimed in claim 7, [characterized in that] the fraction of [stage] step c) is returned to be used as [the] wash liquid in the washer [or press in question] with [the] wash liquid FC being introduced thereto and having the lower concentration [physical property].

9. (Amended) A method as claimed in claim 7, [characterized in that] wherein the filtrate LI of [stage] step a) is taken from at least one filtrate FC of the washer [or press in question].

10. (Amended) A method as claimed in claim 7, [characterized in that] wherein the filtrate LI of [stage] step a) is taken from at least one filtrate FC of the washer [or press in question] having the higher [physical property] concentration.

11. (Amended) A method as claimed in claim 1, [characterized in that] wherein the separation device (114, 214, 314, 414, 514) is a membrane separator.

12. (Amended) A method as claimed in claim 1, [characterized in that] wherein the separation device is an evaporator (114, 214, 314, 414, 514), [whereby] and

wherein the fraction having the lower [physical property] concentration is condensate and the fraction having the higher [physical property] concentration is concentrate.

13. (Amended) A method as claimed in claim 1, [characterized in that] wherein the volume of the fraction CC having the lower [physical property] concentration returned at stage c) from the separation treatment is no greater than 6 m^3/adt [at the most, about 1 – 5 m^3/adt, preferably 1 – 3.5 m^3/adt].

14. (Amended) A method as claimed in claim 1, [characterized in that] wherein the liquid to be treated in [stage] step b) is white liquor flowing from the chemical recovery to the [digestion plant] digester (2).

15. (Amended) A method as claimed in claim 1, [characterized in that] wherein soap is separated from the fraction obtained from [stage] step b) and having the higher dry solids content.

16. (Amended) A method as claimed in claim 1, [characterized in that] wherein pulp is further treated in [the] a bleaching [stages] stage BL following the oxygen delignification stage so that at least part of the fraction CC to be returned at [stage] step c) is passed to a washer or press of [a] the bleaching stage.

17. (Amended) A method as claimed in claim 16, [characterized in that also] wherein at least a part of the wash liquids used in the bleaching stage BL is passed counter-currently up to the [digestion plant] digester (2).